AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions and listings of claims in the application:

1-14 (Canceled).

15. (Currently Amended) The system as recited in claim 16, wherein said <u>selected</u> network hub server ~~further includes means for~~ derive<u>s</u>~~ing~~ state information from said at least one network device by<u>:</u>

polling said at least one network device <u>at the polling interval;</u>~~,~~

<u>sending a query related to operational status to said at least one network device;</u>

receiving a response <u>regarding said operational status</u> from said at least one network device<u>;</u>[[,]] ~~and~~

computing [[a]] <u>the</u> weighted average over ~~a plurality of~~ <u>at least one</u> ~~time periods~~ <u>polling interval</u> using <u>results of said polling and said</u> responses received from said at least one network device when said ~~at least one~~ remote network server <u>communicating with said at least one network device</u> is inoperable<u>,</u> <u>wherein the weighted average is a representation of the state of said network device; and</u>

<u>storing said weighted average.</u>

16. (Currently Amended) A distributed network management system, comprising:

~~at least one~~ <u>a selected</u> network hub server for communicating with ~~and monitoring~~ ~~at least one~~ <u>a plurality of</u> remote network server<u>s</u>;

<u>each of</u> said ~~at least one~~ <u>plurality of</u> remote network server<u>s</u> for communicating with at least one network device and ~~said at least one~~ <u>said selected</u> network hub server~~; and~~ wherein —— ~~means associated with~~ <u>each of</u> said ~~at least one~~ remote network server<u>s</u> ~~for~~ derive<u>s</u>~~ing~~ state information from said network device by:

polling said at least one network device <u>at a polling interval;</u>[[,]]

sending a query related to operational status to said at least one network device;

receiving a response regarding said operational status from said at least one network device[[,]]; and

computing a weighted average over at least one ~~a plurality of time periods~~ said polling interval using results of said polling and said responses received from said at least one network device, wherein the weighted average is a representation of the state of said network device; and

storing said weighted average.

17.   (Currently Amended) The system as recited in claim 16, ~~wherein said deriveing state information comprises:~~

~~defining a polling interval for said at least one network device;~~

wherein polling said at least one network device comprises:

_____sending a plurality of pings to an interface address on said at least one network device during said polling interval;

_____monitoring a number of pings returned from said at least one network device and calculating a percentage based on the number of pings sent and said number of pings returned;

~~sending a query to~~ wherein receiving a response regarding said operational status from said at least one network device comprises: ~~and determining operational status of said at least one network device from said query based on a response from said at least one network device, said operational status comprising~~

_____receiving a response indicating whether said operational status is "up", "down", ~~and~~ or "unknown";

~~using the calculated percentage of pings returned and said status response,~~ generating a status percentage for the polling ~~period~~ interval by multiplying the percentage pings returned by a constant value associated with said operational status, said constant value comprising a first value if the operational status is "up", a second value if the operational status is "down", and a third value if the operational status is "unknown"; and

wherein computing [[a]] the weighted average ~~of the status percentages~~ comprises:

computing the weighted average of the status percentage for a current and at least one previous ~~four~~ polling interval ~~periods~~ and determining the state of said at least one network device from the weighted average.

18.   (Cancelled)

19.   (Previously Presented) A computer readable storage medium having a program for generating a source code object, the program comprising logic for executing an LTP paradigm, said LTP paradigm comprising the steps of:

defining a polling interval for at least one network device;

sending a plurality of pings to an interface address on said at least one network device during said polling interval;

monitoring a number of pings returned from said at least one network device and calculating a percentage based on the number of pings sent and said number of pings returned;

sending a query to said at least one network device and determining operational status of said at least one network device from said query based on a response from said at least one network device, said operational status comprising "up", "down", and "unknown";

using the calculated percentage of pings returned and said status response, generating a status percentage for the polling period by multiplying the percentage pings returned by a constant value associated with said operational status, said constant value comprising a first value if the operational status is "up", a second value if the operational status is "down", and a third value if the operational status is "unknown"; and

computing a weighted average of the status percentages for current and previous four polling periods and determining the state of said at least one network device from the weighted average.

20.   (Previously Presented) A system for deriving state information from a network device, comprising:

(a)   a computer; and

(b)   programming associated with said computer for carrying out the operations of

(i)   defining a polling interval;

(ii)   sending, from an ICMP server, a plurality of pings to an interface address on said network device during said polling interval;

(iii)   monitoring the number of pings returned from said network device and converting said number to a percentage based on the number of pings sent;

(iv)   sending an SNMP query to said network device and determining operational status of said network device from said SNMP query, said operational status comprising "up", "down", and "unknown";

(v)   using the percentage of pings returned and the SNMP status, generating a status percentage for the polling period by multiplying the percentage pings returned by a constant value associated with said operational status, said constant value comprising a first value if the operational status is "up", a second value if the operational status is "down", and a third value if the operational status is "unknown"; and

(vi)   computing a weighted average of the status percentages for current and previous four polling periods and determining the state of the network device from the weighted average.

21 – 27 (Canceled).

28.   (Cancelled)

29.   (Currently Amended) A method for <u>deriving state information</u> <s>distributed network management</s>, comprising:

~~communicating, through at least one remote network server, with at least one network~~ ~~device and with at least one network hub server, and said at least one remote network server~~ ~~deriving state information from said at least one network device by:~~

polling ~~said~~ at least one network device at a polling interval;

sending a query related to operational status to said at least one network device;

receiving a response regarding said operational status from said at least one network device[[,]]; ~~and~~

computing a weighted average over ~~a plurality of~~ at least one ~~time periods~~ said polling interval using results of said polling and said responses received from said at least one network device, wherein the weighted average is a representation of the stated of said at least one network device; and

storing said weighted average.

30.   (Currently Amended) The method as recited in claim 29, ~~wherein said deriving~~ ~~state information comprises:~~

~~defining a polling interval for said at least one network device;~~

wherein polling said at least one network device comprises:

_____sending a plurality of pings to an interface address on each said at least one network device during said polling interval;

_____monitoring a number of pings returned from said at least one network device and calculating a percentage based on the number of pings sent and said number returned;

~~sending a query to~~ wherein receiving a response regarding said operational status from said at least one network device comprises: ~~and determining operational status of said~~ ~~at least one network device from said query based on a response from said at least one~~ ~~network device, said operational status comprising~~

_____ receiving a response indicating whether said operational status is "up", "down", ~~and~~ or "unknown";

~~using the calculated percentage of pings returned and said status response,~~ generating a status percentage for the polling ~~period~~ interval by multiplying the percentage pings

returned by a constant value associated with said operational status, said constant value comprising a first value if the operational status is "up", a second value if the operational status is "down", and a third value if the operational status is "unknown"; and

wherein computing [[a]] weighted average ~~of the status percentages~~ comprises:

computing the weighted average of the status percentage for ~~current and~~ at least one previous ~~four~~ polling ~~periods~~ interval and determining the state of said at least one network device from the weighted average.

31.   (Previously Presented) A method for deriving state information from a network device, comprising:

(a)   defining a polling interval;

(b)   sending, from an ICMP server, a plurality of pings to an interface address on said network device during said polling interval;

(c)   monitoring the number of pings returned from said network device and converting said number to a percentage based on the number of pings sent;

(d)   sending an SNMP query to said network device and determining operational status of said network device from said SNMP query, said operational status comprising "up", "down", and "unknown";

(e)   using the percentage of pings returned and the SNMP status, generating a status percentage for the polling period by multiplying the percentage pings returned by a constant value associated with said operational status, said constant value comprising a first value if the operational status is "up", a second value if the operational status is "down", and a third value if the operational status is "unknown"; and

(f)   computing a weighted average of the status percentages for current and previous four polling periods and determining the state of the network device from the weighted average.

32.   (Currently Amended) The system as recited in claim 16, ~~wherein said deriving state information comprises:~~

~~defining a polling interval for said at least one network device;~~

~~sending a plurality of pings to an interface address on said at least one network device during said polling interval;~~

~~monitoring a number of pings returned from said at least one network device and calculating a percentage based on the number of pings sent and said number of pings returned;~~

~~using the calculated percentage of pings returned, generating a status percentage for the polling interval by multiplying the calculated percentage pings returned by a constant value; and~~

~~computing a weighted average of the status percentages for a the current and a plurality of previous polling periods and determining the state of network device from the weighted average.~~

wherein polling said at least one network device comprises:

sending a plurality of pings to an interface address on said at least one network device during said polling interval;

monitoring a number of pings returned from said at least one network device and calculating a percentage based on the number of pings sent and said number of pings returned;

wherein receiving a response regarding said operational status from said at least one network device comprises:

receiving a response indicating whether said operational status is "up", "down", or "unknown";

generating a status percentage for the polling interval by multiplying the percentage pings returned by a constant value associated with said operational status, said constant value comprising a first value if the operational status is "up", a second value if the operational status is "down", and a third value if the operational status is "unknown"; and

wherein computing the weighted average comprises:

computing the weighted averaged of the status percentage for a current and the previous four polling intervals and determining the state of said at least one network device from the weighted average.

33.   (Cancelled)

34.   (Currently Amended) The method as recited in claim 29, ~~wherein said deriving state information~~ further comprises:
~~defining a polling interval for said at least one network device;~~
~~polling a plurality of network devices by:~~
~~sending a plurality of pings to an interface address on said at least one network device during said polling interval;~~
~~monitoring a number of pings returned from said at least one network device and calculating a percentage based on the number of pings sent and said number returned;~~
~~using the calculated percentage of pings returned, generating a status percentage for the polling interval by multiplying the percentage pings returned by a constant value; and~~
~~computing a weighted average of the status percentages for a current and a plurality of previous polling periods and determining the state of said at least one network device from the weighted average.~~
wherein polling said at least one network device comprises:
sending a plurality of pings to an interface address on said at least one network device during said polling interval;
monitoring a number of pings returned from said at least one network device and calculating a percentage based on the number of pings sent and said number of pings returned;
wherein receiving a response regarding said operational status from said at least one network device comprises:
receiving a response indicating said operational status is "up", "down", or "unknown";

generating a status percentage for the polling interval by multiplying the percentage pings returned by a constant value associated with said operational status, said constant value comprising a first value if the operational status is "up", a second value if the operational status is "down", and a third value if the operational status is "unknown"; and

wherein computing the weighted average comprises:

computing the weighted averaged of the status percentage for a current and the previous four polling intervals and determining the state of said at least one network device from the weighted average.

35. (Cancelled)

36. (Currently Amended) The system as recited in claim 15, ~~wherein said selected network hub server further deriving state information comprises:~~

~~defining a polling interval for said at least one network device;~~

wherein polling said at least one network device by said selected network hub server comprises:

sending a plurality of pings to an interface address on said at least one network device during said polling interval;

monitoring a number of pings returned from said at least one network device and calculating a percentage based on the number of pings sent and said number of pings returned;

wherein receiving a response regarding said operational status from ~~sending a query to~~ said at least one network device comprises: ~~and determining operational status of said at least one network device from said query based on a response from said at least one network device, said operational status comprising~~

receiving a response indicating whether said operational status is "up", "down", ~~and~~ or "unknown";

~~using the calculated percentage of pings returned and said status response,~~ generating a status percentage for the polling ~~period~~ interval by multiplying the percentage pings

returned by a constant value associated with said operational status, said constant value comprising a first value if the operational status is "up", a second value if the operational status is "down", and a third value if the operational status is "unknown"; and

wherein computing [[a]] the weighted average comprises: ~~of the status percentages~~

computing the weighted average of the status percentage for a current and at least one previous ~~four~~ polling ~~periods~~ interval and determining the state of said at least one network device from the weighted average.

37.   (Currently Amended) The system as recited in claim 15, ~~wherein said deriving state information comprises:~~

~~defining a polling interval for said at least one network device;~~

~~sending a plurality of pings to an interface address on said at least one network device during said polling interval;~~

~~monitoring a number of pings returned from said at least one network device and calculating a percentage based on the number of pings sent and said number of pings returned;~~

~~using the calculated percentage of pings returned, generating a status percentage for the polling interval by multiplying the calculated percentage pings returned by a constant value; and~~

~~computing a weighted average of the status percentages for a current and a plurality of previous polling periods and determining the state of said at least one network device from the weighted average.~~

wherein polling said at least one network device by said network hub server comprises:

sending a plurality of pings to an interface address on said at least one network device during said polling interval;

monitoring a number of pings returned from said at least one network device and calculating a percentage based on the number of pings sent and said number of pings returned;

wherein receiving a response regarding said operational status from said at least one network device comprises:

receiving a response indicating whether said operational status is "up", "down", or "unknown";

generating a status percentage for the polling interval by multiplying the percentage pings returned by a constant value associated with said operational status, said constant value comprising a first value if the operational status is "up", a second value if the operational status is "down", and a third value if the operational status is "unknown"; and

wherein computing a weighted average comprises:

computing a weighted average of the status percentage for a current and the previous four polling intervals and determining the state of said at least one network device from the weighted average.

38. (Cancelled)

39. (Cancelled)

40. (Cancelled)

41. (Cancelled)

42. (New) The system recited in claim 17 wherein said remote network server computes a weighted average by assigning a weight value to the status percentage to each of the previous four polling intervals, wherein the assigned weight is higher for the most recent polling interval and lower for the least recent polling interval.

43. (New) The method recited in claim 30 wherein said computing a weighted average comprises assigning a weight value to the status percentage to each of the previous

four polling intervals, wherein the assigned weight is higher for the most recent polling interval and lower for the least recent polling interval.

44.   (New)   The method as recited in claim 28 wherein said deriving state information is performed by a remote network server.

45.   (New)   The method as recited in claim 28 wherein said deriving state information is performed by a network hub server.